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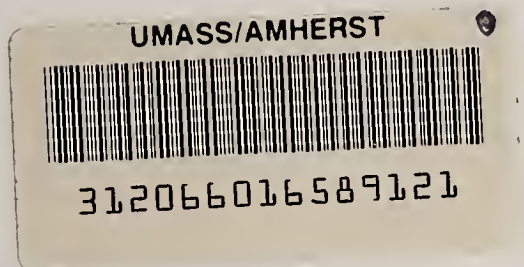


The Commonwealth of Massachusetts

HOUSE POST AUDIT AND OVERSIGHT BUREAU

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THE LEVERETT SALTONSTALL OFFICE BUILDING
BUREAU OF STATE OFFICE BUILDINGS
"TIME TO LEAVE"

March, 1998

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GOVERNMENT DOCUMENTS
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SEP 29 1998

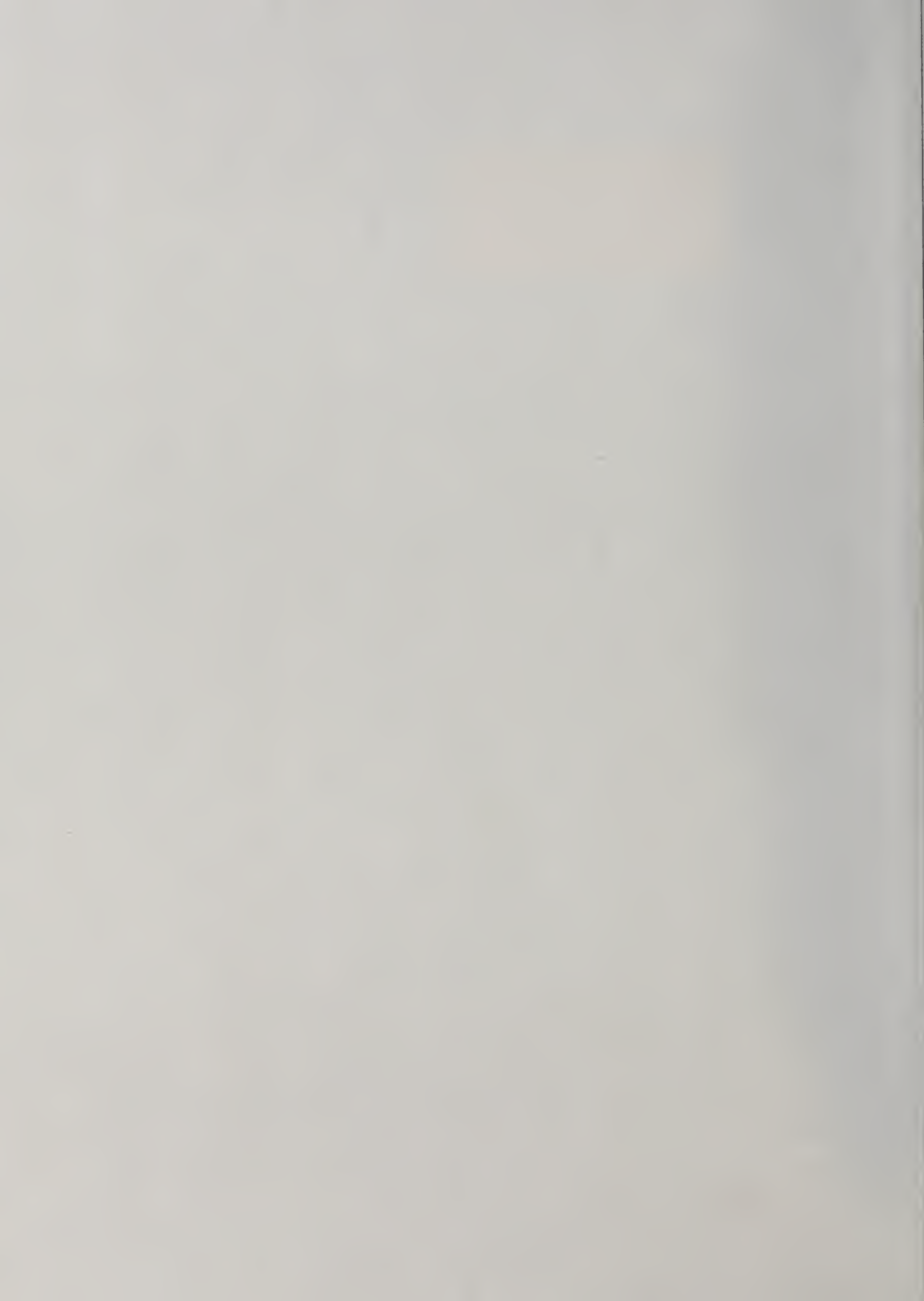
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INTRODUCTION:

At the request of the House Committee on Post Audit and Oversight, the House Post Audit and Oversight Bureau (the HPAO Bureau) conducted a preliminary examination of the condition of the Leverett Saltonstall Building, the manner in which it has been maintained, and the implications of shoddy maintenance of the infrastructure and systems in the building. The HPAO Bureau conducted its preliminary review after several House members raised concerns about historical maintenance problems and the effect of lack of maintenance on air quality, employee health, productivity, and other related concerns.

In the course of its review, the HPAO Bureau was made aware of the serious and growing asbestos problems in the building. The HPAO Bureau found that diminished maintenance efforts continued to increase the potential for health hazards from the asbestos within the building. Upon review of material subpoenaed from an asbestos contractor, the HPAO Bureau discovered that 11th floor air supply ducts had been found to contain asbestos material. The HPAO Bureau immediately communicated this information to the Secretary of Administration and Finance (A and F) and the Division of Capital Planning and Operations (DCPO).

In response to the discovery of records indicating asbestos in the 11th floor ductwork, and in response to the letter attached, the HPAO Bureau met with the Secretary of Administration and Finance and raised concerns about all of the asbestos located within the building. Based upon discussions with the HPAO Bureau and the HPAO Committee Chairman, the Secretary agreed to conduct a full test of the building to determine if any health or safety issues warranted immediate evacuation of the building.

Prior to this initial meeting and subsequent, the HPAO Bureau inspected the building, photographed areas needing maintenance, and met with numerous government officials, scientific experts, and Saltonstall employees. These HPAO Bureau contacts included meeting with officials from the Division of Capital Planning and Operations, the Bureau of State Office Buildings (BSOB), and the Office of Administration and Finance. The HPAO Bureau further contacted the Department of Labor and Workforce Development, the Division of Occupational Safety, the Office of the Attorney General Fair Labor and Business Practices, the Massachusetts Coalition for Occupational Safety and Health, the National Voluntary Laboratory Accreditation Program, the National Academy of Science, the Board of Environmental Studies and Toxicology, the United States Environmental Protection Agency, the Department of Environmental Protection, the American Board of Industrial Hygiene, local colleges and universities, certified industrial hygienists, and an epidemiologist who formerly taught certification classes for asbestos abatement workers. The HPAO Bureau also reviewed hundreds of pages of documents from the Division of Capital Planning and Operations and the Bureau of State Office Buildings.

The Secretary of Administration and Finance, as part of the procedure to re-test the Saltonstall building, asked the HPAO Bureau to review the proposed test protocol. In the course of its protocol review, the HPAO Bureau consulted with various experts including those referenced above and reviewed state and federal documents relating to asbestos and management of asbestos in the workplace. Further, the HPAO Bureau met with officials and industrial hygienists at the state laboratory in Newton and viewed microscopic samples of asbestos, fiberglass, cellulose, and other materials that are present in many buildings including the Saltonstall building.

The HPAO Bureau is currently awaiting the approval of the air test protocol by the National Institute for Occupational Safety and Health. The HPAO Bureau is also awaiting the final development of wipe tests and other related tests that the HPAO Bureau has consistently sought to include as part of prudent, thorough tests. The HPAO Bureau is pleased to have facilitated the comprehensive testing of the building. Yet, the responsibility to oversee and maintain the building lies with DCPO and BSOB. The HPAO Bureau will, of course, continue to monitor the development of the tests, the test outcomes, and other related matters. The HPAO Bureau will keep the Committee apprised of new information.

FINDINGS: Based on its review, the HPAO Bureau issues the following findings:

- * The evacuation of the Saltonstall building should be expedited. The Bureau has been unable to disprove any of the serious allegations about widespread potential for asbestos contamination and in the process of reviewing the condition of the building under the worst case scenario recommends all employees should be relocated expeditiously.
- * In addition to the serious asbestos problem, the Saltonstall is a sick building. The HPAO Bureau found ample evidence of air flow and air quality issues that make it a sick

building apart from the serious problems related to asbestos. At the bare minimum, the building needs to be totally overhauled with all major systems replaced and all asbestos removed.

- * The Saltonstall building has historically had serious operational, maintenance and safety issues that have remained unaddressed. The HPAO Bureau found that band-aid maintenance approach to the building was a contributor to the current poor condition of the building.
- * The history of varied health complaints and the building's continued deterioration is creating substantial worker anxiety regarding workplace health and safety. Increased worker concerns have not been adequately addressed by BSOB or DCPO. The failure to provide timely and consistent information has created mistrust and skepticism on the part of employees.
- * The building contains aging sprayed-on asbestos fireproofing which was applied during construction on beams and above ceilings. Some of this material has delaminated and has come to rest on top of ceiling tiles. Because of this, impeccable cleaning of the building by trained personnel using specific methods is required. The HPAO Bureau found however that appropriate methods and standards of cleanliness have not always been maintained. Although the HPAO Bureau found that there were some efforts made as of late to improve performance, recent wipe samples still detected asbestos on many horizontal surfaces despite recent cleanup of the same areas. The HPAO Bureau is unable to determine the direct source of the asbestos found in the wipe samples. It is possible that asbestos found in wipe samples could have been released long ago.
- * The asbestos fireproofing within the air plenums (spaces for air movement within the ventilation system) causes routine maintenance to be procedurally burdensome and costly. Much ventilation maintenance has been foregone to avoid intrusions into the asbestos containing areas. This poor ventilation has contributed to a number of the health complaints in this building.
- * Historically, routine building maintenance was assigned low priority and often times was deferred. Since recent plans were developed to completely renovate the building, serious maintenance has been postponed. This deferral of critical maintenance poses an ongoing potential danger to workers due to the potential for breaches of ceiling tiles and other areas where asbestos could be released.
- * Poor air quality continues to be a problem due to the lack of maintenance and the configuration of office space, including the placement of office partitions, which does not take into account the design of the air system within the building. Dampers, vents, and air supply units are supplying substantially less air than is healthy for building occupants.



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- * The Operations and Maintenance Plan (O and M plan), which is required due to the asbestos located within the building, has not been properly followed. Only recently has some of the necessary equipment been assigned a high priority for purchase.
- * BSOB represented that instead of recirculating air, 100% fresh air is utilized to prevent the introduction of harmful contaminants into the air via the HVAC system. Yet, the HPAO Bureau later found that on days when temperature exceeds 85 degrees or falls below 20 or 30 degrees, (the Bureau reviewed documents indicating that different figures are used) 70% of the air is recirculated due to the limitations of the HVAC system. The HPAO Bureau found ample evidence that many offices did not have adequate amounts of fresh air coming in.
- * Wipe samples taken from desktops, cabinets, and other horizontal surfaces last summer indicate that asbestos fibers are becoming airborne and falling on these surfaces, thus these fibers can be inhaled by workers during their descent or if reentrained into the air from human activity.
- * Given the BSOB's inability to oversee the implementation of a consistent O and M plan over the years, it is impossible to determine the age of the asbestos fibers detected in wipe samples. Given problems with ventilation systems, the failure to seal mechanical and elevator systems areas, and the failure to use HEPA vacuums and wet wiping, released asbestos could travel to areas previously remediated.
- * Poor management delayed relocation of Saltonstall workers when charges for commercial rental space were low in the early 1990's. As a result, the Commonwealth lost significant opportunities to save money on relocation costs.
- * The HPAO Bureau found that after the discovery of asbestos in the air duct on the 11th floor in 1994, no agencies were alerted and no further tests were implemented to inspect other air ducts. The HPAO Bureau found that the discovery of asbestos in the air supply duct in the 11th floor was not communicated to top management of the supervising agencies.
- * Employee health concerns have been compounded by a serious problem with communication between DCPO, BSOB, and agencies located in the Saltonstall building.
- * One agency on the 11th floor of the building abandoned the premises in 1995 after repeated health complaints were not resolved to the agency's satisfaction.
- * During the period of review, there was a serious problem with communication internally at BSOB, particularly between the Superintendent and the Asbestos Coordinator (who was forbidden from contacting the Superintendent), which undermined their ability to properly oversee the maintenance of the building.

THE SALTONSTALL BUILDING: BACKGROUND

The Saltonstall building is approximately 32 years old. Construction of the 22 story office building, located in downtown Boston, was completed in 1966. The building houses approximately 2,100 state workers from about 40 state agencies, according to DCPO documents. According to DCPO's Five Year Plan: Report to the Legislature, their major capital need is the full renovation of the Saltonstall building as it "has numerous deficiencies" and has "reached the end of its useful life."

DCPO documents cite numerous problems with the building including the air handling system, electrical system, roof, elevators, bathrooms, ceilings, plaza, lighting system, and windows. Further, a sprinkler system is needed in order to comply with state and federal law, office space is poorly designed and "woefully inadequate," and asbestos must be "removed from virtually every floor."

The HPAO Bureau's review of the maintenance and operation of Saltonstall revealed significant problems, many of which plague state facilities generally. When fiscal conditions are good there tends to be more money available for maintenance. When revenue shortfalls occur, maintenance is deferred and deterioration of the Commonwealth's property assets occurs. The Commonwealth's budget problems of the late 1980's and early 1990's resulted in a number of critical maintenance efforts, particularly in Saltonstall, being deferred, temporarily delayed, or abandoned.

These deferred projects include everything from exterior repairs to cooling system repairs. Many such rehabilitation projects were impacted by the existence of large

amounts of asbestos within the building, however other, unrelated projects were also pushed aside and addressed only as extreme emergencies arose.

The Bureau of State Office Buildings has acknowledged that it has been “increasingly difficult” for them to provide a comfortable workplace for agencies at Saltonstall, “due to the slow but steady deterioration of the building.” The Superintendent of BSOB described the situation in testimony before the Committee on State Administration on June 25, 1997. “While we have been able to patch here and there, the asbestos fireproofing above ceiling areas has prevented us from performing some routine maintenance. Procedures we have done are expensive due to the precautions we must take whenever we work in areas containing asbestos. It does not make sense to spend \$3000 in asbestos abatement just to repair a broken pipe,” he said.

ASBESTOS- BACKGROUND¹

The issue of the health and safety implications of the asbestos in the Saltonstall Building has generated substantial controversy. Due to the scientific and technical questions raised, it is important to have a rudimentary understanding of asbestos and its presence in the workplace.

¹ This section describing asbestos is based on the following sources of information: *Managing Asbestos in Place: A Building Owner's Guide to Operations and Maintenance Programs for Asbestos-Containing Material*, United States Environmental Protection Agency, July 1990.; *Asbestos Exposure Assessment in Buildings: Inspection Manual*, United States Environmental Protection Agency, October 1982, *Asbestos in Public and Commercial Buildings: A Literature Review and Synthesis of Current Knowledge*, Health Effects Institute- Asbestos Research, 141 Portland Street, Suite 1700, Cambridge, MA. 02139, 1991.; *Guidance for Controlling Asbestos-Containing Materials in Buildings*, United States Environmental Protection Agency, 1985; *Indoor Air Quality in the Modern Office: A Training Workbook for Working People*, The Labor Institute, NYC.

Asbestos is a term used to describe a group of fibrous, naturally occurring silicate minerals. These fibers are flexible and strong, making good thermal, acoustic, and electrical insulators. They are stable in both acidic and alkaline environments.

There are three main types of asbestos; chrysotile, crocidolite, and amosite. Approximately 95% of all the asbestos used in the United States is chrysotile. The Saltonstall building contains both chrysotile and amosite asbestos, according to the Division of Occupational Safety.

The exact risk of disease from asbestos exposure is unknown, according to current scientific literature and experts with whom the HPAO Bureau spoke. However, local experts reported to the HPAO Bureau that it is generally accepted by the scientific community that intact and undisturbed asbestos containing materials do not pose a health risk. Thus, the mere presence of asbestos in buildings need not endanger building occupants. However, asbestos containing materials can become hazardous when released into the air if inhaled by people.

Asbestos fibers are so small that they are not visible to the naked eye when present in air. After being released from asbestos containing material (ACM), asbestos fibers can remain suspended in air for hours. According to an industrial hygienist the HPAO Bureau interviewed at length, amosite asbestos can pose the most danger when airborne because it tends to remain suspended in the air the longest.

The release of asbestos fibers into the air may be due to damage, disturbance, or deterioration of the material. However, the likelihood that asbestos will be released from the asbestos containing material into the air also depends on its “friability.” Friable

asbestos material is any material containing more than one percent asbestos by weight which, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure.²

Resuspension is another issue that arises with buildings containing asbestos.

Resuspension is a secondary dispersal or reentrainment of fibers into the air which have previously been released.³ These released fibers can accumulate on surfaces in the area and can be easily stirred up during the course of routine activities. Once resuspended, these aerodynamic fibers remain in the air for long periods of time. Resuspension can be caused by activities such as sweeping, dusting, and by air currents from circulation systems. Resuspension is generally proportional to the level of activity within the area.⁴

Despite scientific uncertainty regarding the specific health consequences of asbestos exposure, some diseases have been associated with asbestos. Specifically, asbestosis which is a fibrous scarring of the lungs, mesothelioma which is a cancer of the lining of the abdominal cavity or the chest cavity, and lung cancer have all been associated with exposure to asbestos. However, scientists informed the HPAO Bureau that this information is based primarily on studies of workers who were routinely exposed to high levels of asbestos such as shipbuilders. The latency period for asbestos related diseases may be ten to forty years.

In July 1989, the Environmental Protection Agency banned the use of asbestos in new products. However, the ban does not require that existing asbestos containing materials be removed from buildings. Thus, many products that contain asbestos can still

² 40 CFR 763.121

³ *Asbestos Exposure Assessment in Buildings: Inspection Manual*, United States Environmental Protection Agency, Region 7, Kansas City, MO. October 1982.

⁴ *Id.*

be found in buildings today. Common products include electrical wire insulation, thermal systems insulation, fireproofing materials, spackle and plastering compounds, corrugated paper, floor and ceiling tiles, wallpaper, and cement products.

THE OPERATIONS AND MAINTENANCE PLAN: A FAILURE?

In buildings containing asbestos such as Saltonstall, an Operations and Maintenance Plan (O and M plan) is utilized as a means of managing the material so building occupants are not endangered by the asbestos. O and M plans include requirements pertaining to cleaning, training of maintenance and other personnel, notification requirements, worker protection, surveillance, periodic evaluations, and record-keeping.

According to documents produced by the Department of Public Health, an O and M plan has been in place for Saltonstall since the mid-1980's. However, the only O and M plans the HPAO Bureau received in response to its subpoenas were dated 1995 and 1996. Further, DOS employees who spoke with the HPAO Bureau and had been involved with Saltonstall since the 70's, said they could recall no other O and M plans for Saltonstall prior to those just mentioned. However, they had recommended in 1985 that such an asbestos management plan be put in place. They offered to assist in the drafting of the plan, but their offer was not taken up. Other resources have also been available for asbestos management. For example, EPA manuals regarding the proper management of asbestos in the workplace have been available since the early 1980's.

Although A and F has stated there has been an O and M plan in place for Saltonstall since 1987, as mentioned the HPAO Bureau received no such document in response to its subpoenas. The Asbestos Coordinator for the Saltonstall Building indicated, it was not until 1995 that an actual comprehensive plan was drafted. He further informed the HPAO Bureau that this plan was merely a draft that was not finalized until 1996. The Asbestos Coordinator stated that prior to the drafted plan, policies and procedures were handled by way of memos from him on a case specific basis, along with input from the Division of Occupational Safety (DOS). DOS, which during part of this time period was called the Division of Occupational Hygiene, made recommendations for prudent practices and conducted testing of the building as far back as the 1970's.⁵

Comments by numerous building occupants and documents reviewed by the HPAO Bureau indicate that procedures, both before and after the O and M plan was drafted, were not properly followed. For example, documents suggest that while maintenance workers are supposed to have 16 hours of training, training is conducted very infrequently.

The HPAO Bureau found that other procedures were not followed either. For example, documents indicate and numerous Saltonstall occupants confirm, that some areas of the building were never cleaned, cleaning in other areas was not routinely done, and when done, not necessarily done with the proper equipment. Indeed, according to

⁵ Hereinafter this agency will be referred to as the Division of Occupational Safety (DOS). This will be done for ease of reference even though during some of the pertinent time period their name was the Division of Occupational Hygiene.

DCPO documents, some of the equipment necessary for proper cleaning such as HEPA vacuums were not even purchased until the summer of 1997.

According to building occupants who spoke with the HPAO Bureau, it was not until last summer that cleaning was undertaken on a regular basis. Prior to this time, several occupants informed the HPAO Bureau that not even basic dusting and vacuuming were done regularly, never mind the recommended wet wiping and HEPA vacuuming. One worker who has been in the building for approximately seven years described the maintenance as "abysmal." She, along with other Saltonstall workers who spoke with the HPAO Bureau, said that for years there really was no housekeeping of which to speak. She and documents both suggest that it was only a couple months ago that maintenance work was undertaken after hours and on a regular basis.

Last summer, BSOB recommended new procedures for cleaning and maintenance after air and wipe sampling tests were conducted. The recommendations included repairing ceilings, requiring future vacuuming be done with HEPA vacuums after hours, and using wet wiping rather than dusting to clean.

Policy changes were also recommended. These included requiring that all areas be accessible to cleaning staff (including locked offices), notifying the BSOB before moving furniture to control dust, and wearing name tags after hours. The notice further indicated that "[e]mployees should not refuse to have their office areas cleaned. In the past it was common for employees to avoid the disruption caused by cleaning, but unfortunately that meant that some areas were never cleaned. Since cleaning will now occur after hours, those working after hours must allow the cleaners to work." The

HPAO Bureau was not able to verify whether consistent and appropriate cleaning of all facilities in fact took place.

The 1997 procedure and policy recommendations resulting from the asbestos tests were not new. In fact, DOS had for years recommended that precautionary measures be taken. These warnings were described to HPAO Bureau staff during the course of its inquiry. DOS's warnings were also reiterated in documents to BSOB as late as last year. "For the safety and good health of all of the employees in the building it immediately must be implemented. Any written plan will only be as effective as the personnel who are charged with it's implementation and the support received from administration." The statement was made in February of 1997, yet the formal O and M plan to which DOS is referring was written in draft form two years earlier in 1995 and finalized in 1996.

References to the importance of taking precautions and of developing and implementing an asbestos management plan can be found in BSOB and DOS documents dating back to the 70's and 80's and proposed again as recently as 1997. BSOB and DOS references include the following: "Recommendations:...An Operations and Maintenance Plan be developed and implemented as soon as possible." "To prevent asbestos exposure from reentrainment of asbestos fibers in the dust appropriate housekeeping measures directed toward removal of the dust should be instituted." "All vacuuming should be performed only if the vacuum has a HEPA filter" "Clean with wet cloth and use HEPA vacs." "No dry sweeping should occur." (Underline in original) "Develop plan and time schedule for after hours HEPA Vac and damp wipe."

DOS further recommended that visual inspection and air testing be conducted every six months. DOS was not alone in making the recommendation of periodic air tests. A consultant also recommended a periodic building-wide air survey be conducted every six months. The HPAO Bureau's interviews with building occupants found no evidence that any of this was done.

Interestingly, with all the references to HEPA vacuums in documents from the 1980's, two memos from last summer reveals that HEPA vacuuming was not done. The BSOB Superintendent wrote in his memo, "purchase special HEPA vacuum cleaners." Another memo written last summer read, in part, "begin use of HEPA vacuum cleaners in Saltonstall and in all construction." Yet another e-mail to DCPO from the BSOB Superintendent indicates the matter was not resolved as of July 17, 1997. The topic of the e-mail was securing funds to purchase the HEPA vacuums. The HPAO Bureau finds the failure to purchase and use HEPA vacuums particularly troubling in light of the repeated positive wipe samples.

There are also references which indicate the use of wet wiping was considered special cleaning. "The cleaners have begun their one time spring cleaning. This spring cleaning consists of vacuuming and wet wiping all surfaces to remove dust...All future vacuuming will be done after hours with new high efficiency filter vacuum cleaners by cleaning contractor personnel. In addition, cleaners will no longer dust; all future surface cleaning will be done with wet cloths."

Finally, it appears that even an outside consultant referenced the fact that the O and M plan was not being followed. A letter from the Human Resources Division of A

and F read, in part, “[w]hat steps will you take to ensure the current plan (referring to the O and M plan) is followed, as the consultant suggests it hasn’t been observed.”

THE WIPE TEST:

The most significant evidence that cleaning was not sufficiently carried out (or that the O and M plan is simply failing) was discovered as a result of tests taken at the Saltonstall building last summer. These tests were the first comprehensive asbestos tests conducted on the building in twelve years, according to the consultant. As part of the tests, 184 wipe samples were taken from horizontal surfaces in the building including cabinet tops, bookshelves, desk tops, and table tops. Of the 184 surface samples, 52 samples (28%) tested positive for asbestos.

The consultant in his report wrote that the surface asbestos fibers “are certainly originating from the fireproofing.” He further wrote, “most of the fireproofing will fall to a horizontal surface, where the fibers will do no harm unless they are reentrained into the atmosphere from vibration, slamming of file cabinets drawers, vacuuming without a HEPA filter.” Thus, it is apparent that asbestos fibers are making their way into the working environment of Saltonstall employees despite the O and M plan designed to safely manage the material. Whether the positive test results are from the failure to properly clean or from severe deterioration of the material that can no longer be properly managed through cleaning, is not material. What is important is the fact that these fibers are repeatedly being detected in wipe samples. As one outside engineer HPAO spoke with stated, “asbestos does not grow wild on tops of file cabinets. It has to get there

somehow.” Indeed, some of the positive wipe results came from areas of the building that had asbestos abatement work already completed. (See later section entitled Abated Floors for related information).

According to DCPO documents, the Asbestos Coordinator at Saltonstall was authorized to hire a hygienist to do a wipe test on the second floor last summer. “This will give us a definitive answer regarding those employees on the second floor.” “The wipe test results....indicate we need to do a better job. If the asbestos above the ceiling stays above the ceiling and out of the air, we reduce any potential health risk.” The memo continued, “asbestos fibers which have been released from an overhead sprayed surface may participate in repeated cycles of resuspension and settling. The resuspension of fibers from settled dust (reentrainment) as the result of some disturbance may be a mechanism of exposure in a building such as the Saltonstall.”

Dust samples had been taken years before, in 1984. This was a limited test of only one floor. Eight samples were taken on the floor. One sample of the eight taken on the floor tested positive for asbestos.

The consultant who took the wipes last summer made recommendations for further action. “We should do another round of wipe samples within the next few weeks, and then take random samples within the next 6 months,” he wrote. These recommendations were not followed.

OTHER POSSIBLE CONTAMINANTS:

Since the latency period for asbestos related disease is so long, roughly 10-40 years according to current science, there are in all likelihood other contaminants within the building contributing to the short term health complaints of Saltonstall workers. The HPAO Bureau found that these short term complaints relate to high levels of mold and fungi, as well as poor ventilation and high levels of carbon dioxide, rather than asbestos.

There have been a litany of health complaints by workers in the Saltonstall building. DCPO investigated eight years ago complaints of tiredness, headaches, eye irritation, and poor air quality, according to DCPO's five year plan completed in 1996. This same document noted that issues relating to poor air quality were also raised by workers in 1994, 1995, and 1996. Air quality issues were also raised in the mid-80's when air intake equipment drew air from the loading dock where delivery trucks kept engines running for extended periods of time, according to building occupants.

11TH FLOOR:

The HPAO Bureau noted a particularly troubling event that occurred in relation to the 11th floor in 1994. Employees in an office on this floor complained of symptoms including eye irritation, cluster headaches, eye infections, head colds, and scratchy throats. They asserted that a prior worker in the office, a non-smoker in her early 30's died of lung cancer. They stated that leaking radiators in the office contained asbestos. As a result of these persistent, serious complaints and allegations, tests were conducted and reports were produced.

The HPAO Bureau subpoenaed several years of records from a contractor involved in the testing. Included with the subpoenaed materials were logs, notes and a report indicating that material found in the air ducts as a result of the tests included fungi, mold and other bacteria.

Beyond the non-carcinogenic materials identified, other material found in the air ducts tested 100% positive for asbestos. This information about the presence of a three foot by five foot, half inch thick layer of asbestos fireproofing in the air duct came from working papers of the contractor. There was no mention of this large amount of asbestos in any of the above mentioned reports generated by the contractor.

According to the field notes, the contractor found the material on December 21, 1994. The notes, in describing the inspection of the 11th floor supply air duct, read in part, "more importantly, we witnessed debris located on the supply side of the fire dampers that appeared to be asbestos fireproofing. [The contractor] did not inspect this side of the fire damper and no samples were taken." The contractor left the site with no fireproofing sample. The next entry indicates that just 10 minutes later the Asbestos Coordinator for Saltonstall instructed that a sample of the material be taken. A five pound bag was taken as a sample. The next day, December 22, 1994, at eleven a.m., the test came back on the fireproofing sample as "100% positive -asbestos-".

The EPA explicitly states that friable asbestos containing material, "if present in air plenums, can lead to distribution of the material throughout the building, thereby possibly exposing building occupants."⁶ Thus, two separate issues, asbestos and other

⁶ *Managing Asbestos in Place: A Building Owner's Guide to Operations and Maintenance Programs for Asbestos -Containing Materials*, United States Environmental Protection Agency, July 1990.

contaminants appear to be plaguing Saltonstall employees. As for the specific employees just discussed, the entire office eventually abandoned the premises in 1995 when symptoms did not subside. The agency's abandonment caused other agencies' employees who remained on the floor to become concerned with the safety of the premises. More recently, on February 26, 1998, the State Auditor moved twelve workers from the building.

Register areas were also examined in August of 1994 as part of the series of tests conducted on the 11th floor. Asbestos was discovered. A waiver of advertising and bidding form was completed stating that "emergency threatens the health and safety of persons and property...The time required for publication and posting will not permit the protection of health and safety." A contractor was selected to remove the asbestos. Specifically they were hired to conduct "proper surface decontamination from the register areas located on the 11th floor." The work involved "[d]econtamination and disinfect 25 induction units contaminated with asbestos spray-on fireproofing and associated debris.."

The ventilation system was also evaluated in August of 1994 as part of these 11th floor tests. The results were memorialized in a report. The ventilation system was also evaluated in August of 1994. The ventilation provided by the HVAC system was rated on a scale of 0-10, with 0 being the lowest and 10 the highest. The eleventh floor received a rating of 2. The report read in part, "it is our opinion that the core system was barely working adequately. The core ventilation system was inconsistent... and was ineffective in providing adequate ventilation evenly throughout the space..." The HPAO Bureau talked to several current and former employees who indicated there have been and

continue to be severe problems with the ventilation and the level of fresh air coming through the system.

The carbon dioxide levels were 500-550 ppm. This was above typical ambient carbon dioxide levels, but below the Department of Public Health maximum of 800 ppm, according to the test report. High levels of carbon dioxide, which is naturally produced by humans, can cause discomfort and can worsen the effects of other air contaminants, according to the consultant's report.

As an immediate response to the discovery of asbestos within the air duct, BSOB employees ordered the air be shut off and a fuse removed to disable the system in order to prevent an inadvertent or unauthorized start up. The air was ordered turned back on by the Deputy Superintendent of Operations on December 27, 1994.

Even though asbestos was found in 1994 in the 11th floor air ducts, no other floors were tested to determine if other ducts also contained asbestos. The HPAO Bureau believes that at the bare minimum, all other floors should have had air supply ductwork tested. Three years later, Administration and Finance asserts that the "ducts through which this air circulated are completely free of asbestos containing material," however the HPAO Bureau found no evidence to support that assertion. According to DOS, there is no way of knowing whether asbestos is actually in the other ducts unless they are inspected and despite the 11th floor discovery, this was never done. According to workers who spoke with the HPAO Bureau, not even agencies located on the 11th floor were notified of the asbestos discovery. The HPAO Bureau finds this failure to

communicate the information to the agencies in Saltonstall or to the highest levels of BSOB, A and F, or DCPO most troubling.⁷

HVAC SYSTEM:

The construction of the building is such that any work on the ventilation system requires accessing the areas above the office ceilings which contain asbestos fireproofing. Because of the asbestos fireproofing, elaborate and costly measures must be taken to prevent asbestos from being released into the air when ventilation work is done.

The BSOB Superintendent recognized four years ago the difficulty of the system. "Access to the induction units is possible only after the insulation has been removed, requiring the use of specialized contractors. In addition, the work requires sensitive coordination and education with the tenants on the floor. Given the age of the system and the difficulty in performing regular maintenance, we can only expect more frequent repairs on the future. Each incident proves to be costly and further raises the concerns of the tenants in the building," he said.

Also, due to the construction of the HVAC system, the rush of air from the system over the fireproofing in the air plenum may wear it down, according to DOS documents. This wear may cause it to become more friable and enter the air supply or to fall onto the drop ceiling. The added weight from fallen debris can cause deteriorating ceiling tiles to dislodge. When the tiles fall or crack asbestos may be released into the air. The HPAO

⁷ The Bureau notes the Secretary of Administration and Finance's recent statement about the Saltonstall building, "I would be concerned if I worked in that building." (*Banker and Tradesman*, March 9, 1998 at 2).

Bureau noted that the issue of additional weight to the tiles was significant given recent caulking and sealing efforts which also added weight to the tiles. DOS has commented on this issue as late as last year stating, "[t]he only permanent solution is the removal of the fireproofing."

FRESH AIR:

Due to the asbestos in the building, BSOB represented to the HPAO Bureau that the Saltonstall operates on 100% outside air. The HPAO Bureau later learned that really meant that the system operates on 100% outside air except during certain periods. When the temperature is below 20 or 30 and above 85 degrees air is recirculated due to the limitations of the HVAC system. "For most buildings, under normal summer conditions air is cooled and then recycled throughout a system with small amounts (20-30%) of outside air drawn in to be mixed with the cooled air. In the Saltonstall Building, using Operating and Maintenance procedure developed by DCPO we are required to continuously cool 100% outside air. The same is true in winter conditions. This places a great demand on our systems and increases our utility bills."

According to BSOB documents, the "HVAC system operates on 100% outside air better than 95% of the time." However, according to the University of Massachusetts at Lowell Department of Environmental, Earth, and Atmospheric Sciences, that figure (assuming it truly does run on 100% fresh air at all) is more likely 82.5% at best. This is because a Professor of Meteorology informed the Bureau that on 17.5% of days between

1990-95, the temperature was below 20 degrees or above 85 degrees.⁸ Due to the limitations of the HVAC system, air is recirculated on days where the temperature is above 85 degrees or below 20 (or even below 30 degrees depending on which documents one follows).

According to an outside consultant in his report last summer, "all of the asbestos in the building should be removed. It is very expensive to properly operate a building with asbestos fireproofing. Heating and cooling a building that utilizes 100% outside air could be 3 times more expensive than if 75%-80% of the air could be recirculated."

CEILING TILES:

According to a BSOB document, BSOB held a meeting last year about the condition of ceiling tiles and the asbestos located above the ceilings in the Saltonstall building. The meeting was held to discuss the procedure for handling broken tiles so that possible asbestos contamination could be avoided. During the meeting, the asbestos coordinator himself observed damaged ceiling tiles which he immediately brought to the attention of management. The BSOB document indicated that over a week later the work still had not been completed. "A work order has not even been submitted," it read. Later, the author goes on to say, "[h]ow can I in good conscience stand before building tenants

⁸ According to a Professor of Meteorology, Professor Colby, between Jan. 1, 1990 to Dec. 31, 1995, (a period consisting of 2,192 days) on 180 days the temperature fell below 20 degrees (8.2% of days) and on 203 days the temperature rose above 85 degrees (9.3% of days). This gives the total of 17.5% of days having temperatures that were either too cold or too hot for the HVAC system to utilize 100% fresh air, according to DCPO's own documents. Professor Colby indicated that he would expect these statistics to be representative of current and near-future conditions. Thus, in a given year, "it should be expected that about 3 to 4 working days per month will exceed one of these criteria, and that most of these days will be concentrated in summer and winter," he wrote. (Professor Colby, December 29, 1997).

to discuss Bureau (BSOB) policies and procedures when they are not being followed by building staff? This only erodes my and the Bureau's (BSOB) credibility when discussing these issues with building tenants."

DOS has repeatedly stated that ceiling tiles must be kept in good condition in order to prevent possible exposure to asbestos. Specifically, they stated in reference to Saltonstall that it is of "critical importance that all ceiling panels be in place and that the ceiling be disturbed as sparingly as possible...The importance of intact suspended ceilings in preventing fallout from the spray-on asbestos ceiling and beam coverings from reaching occupied areas...cannot be overstated." The friability of the asbestos in Saltonstall in 1985 described as moderate by DOS.

The problems with the high cost of maintenance and repairs due to the asbestos problems continue to trouble the BSOB. In one case, the BSOB found a reluctance to spend money on necessary repairs because of pending relocations. "[The BSOB Superintendent] and I thought we had better hold off on ceiling contract. DCPO may nix on the dollars if [the Secretary of A and F] does decide building is to be vacated ASAP." It is the delay and the piecemeal approach to the asbestos and maintenance issues which are of particular concern.

According to an outside consultant who was writing about removing all of the asbestos in the building, asbestos is a "maintenance nightmare because every time a ceiling tile falls or the ceiling is breached, asbestos fibers probably enter the occupied space. In addition, when an incident occurs that causes asbestos to enter the occupied

spaces (ceiling tile failure from water, for example), the employees must be evacuated until the problem has been handled. This causes a serious disruption in work output.”

WATER DAMAGE:

The lack of maintenance also contributed to problems with several water damage situations. When asbestos becomes wet, it can become more friable because according to the Division of Occupational Safety, “water damage...compromises the bonding integrity and creates a potential hazard.” The Superintendent of the Bureau of State Office Buildings has stated before a legislative committee that it “does not make sense to spend \$3000 in asbestos abatement just to repair a broken pipe.” Yet, a broken pipe can create the potential danger of asbestos fibers being released into the work environment if not fixed. It is this failure to recognize the interconnected nature of poor maintenance and health concerns that is an additional source of concern to the HPAO Bureau.

Water leaks have been a recurring problem in the Saltonstall. The danger of water damage in an asbestos containing building has been described by DOS and literature for years. The following is an example of one water damage situation at Saltonstall. “Areas were identified where the asbestos-containing material has been damaged by water. Water damage effects the bonding integrity of the material and causes the material to delaminate. Under these conditions, the potential exposure risk to building occupants may increase. Therefore, in areas of severe water damage, removal of the asbestos spray-on is recommended. The ceiling material in the 22nd floor has significant water damage. Removal of the material in this area has been previously recommended by this Agency.

This recommendation is stated again.” The 22nd floor was later abated, however wipe samples taken just last summer still found asbestos fibers post-abatement.

OFFICE RECONFIGURATIONS:

In addition to numerous entries into the ceiling areas to work on ventilation and other systems in the 70's and 80's, a substantial number of office reconfigurations took place. Vibrations from drilling into floors and ceiling spaces for new conduit and other utilities disturbed the asbestos in the proximate areas. Also, areas previously thought to be sealed and thus unable to distribute asbestos such as light fixtures have now been shown not to be sealed.

One agency located on the 11th floor had plans in February 1998 to reconfigure their office space. They had not been told to inform BSOB before such moves. The agency received notification of the policy just before the move was scheduled to occur. They canceled their plans.

MEZZANINE:

Along with the 11th floor, the mezzanine has a troubling history. Some asbestos had been encapsulated in this area, but problems developed with the encapsulation. An outside contractor wrote extensively about the aftermath of the encapsulation in his report in 1986. He wrote, “[e]xtensive delamination of the insulation was seen throughout the area [on the mezzanine level] Sections or pieces of insulation as large as one square foot have fallen off. Deterioration such as this is frequently seen as a result of

excess weight due to the previously applied encapsulation coating...An Operations and Maintenance Plan be developed and implemented as soon as possible. Previous encapsulation has been ineffective...Presence of spray-applied asbestos fireproofing in an air plenum, or in contact with moving air, increases the risk of fiber distribution.”

The contractor also wrote about asbestos fibers and their ability to migrate.

“Asbestos fibers are extremely light and aerodynamic. Microscopic fibers released from insulated surfaces are able to be carried to areas distant from their release. Fiber release occurs during normal building use from vibration, routine maintenance, spontaneous deterioration of the material and during remodeling or renovation activities. Fibers released on one floor can be carried to other floors, increasing risk to exposure...Any activity or occurrence in the building that effects (sic) the fireproofing could effect (sic) building occupants.”

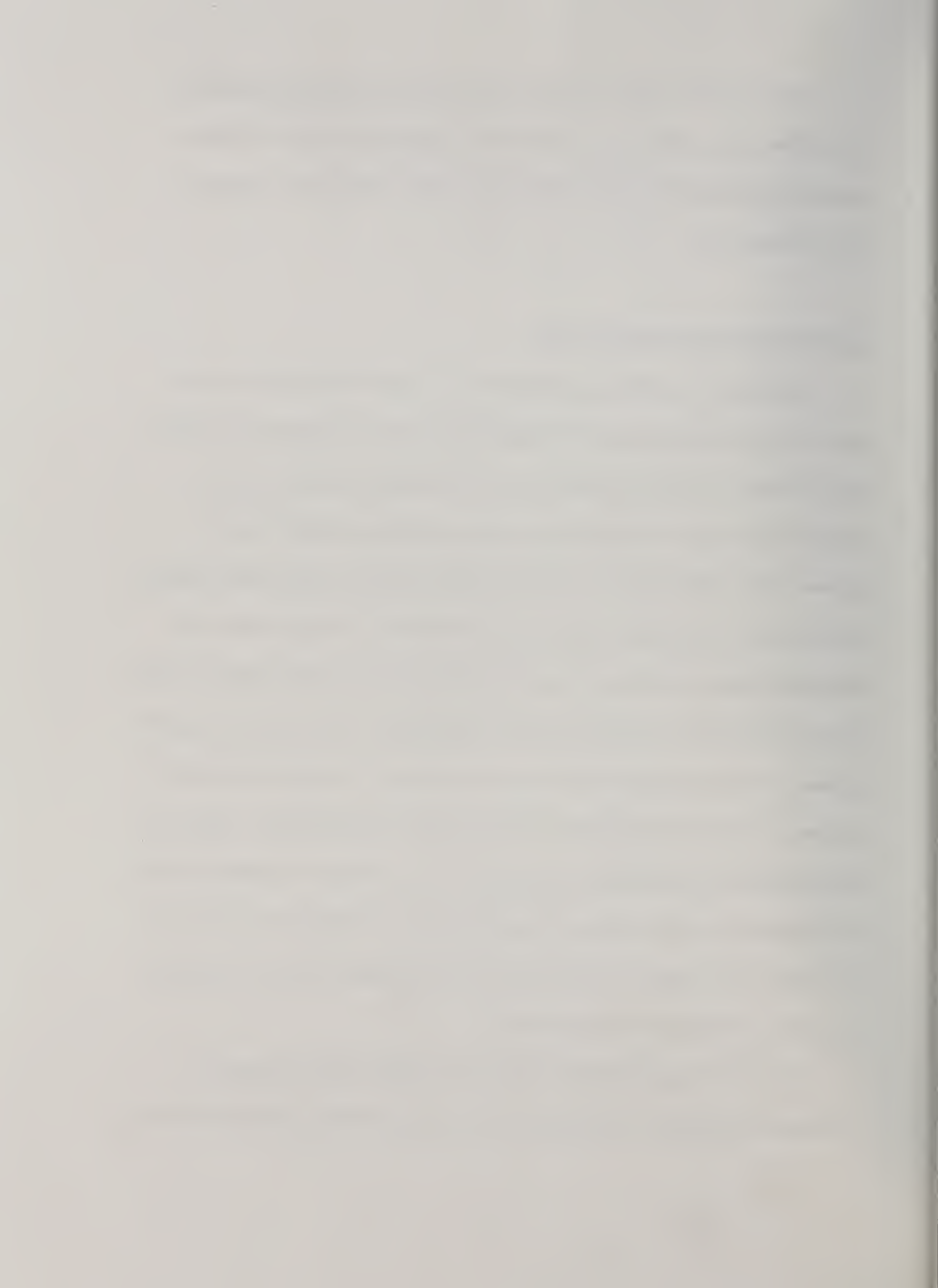
The Division of Occupational Safety also viewed the encapsulation in the mezzanine. They wrote, in part, “there are some areas in the Mezzanine where the spray-on fireproofing appears to have been encapsulated on a random basis” In 1983, DOS drafted information about the pros and cons of encapsulation verses removal of asbestos in Saltonstall. “Encapsulation may be as costly as removal and disposal...The long run costs are likely to be more than for removal due to (1) continuing inspection, (2) periodic replication of sealant, and (3) removal of asbestos-containing material before building demolition or renovation... If the asbestos is damaged or deteriorating, additional weight of the sealant may cause delamination,” they wrote. This delamination is what later occurred in the mezzanine.

In June of 1997, asbestos related work was performed on the mezzanine level. Cracks, holes, doors, and ducts were sealed and a hazard sign was posted. This area remains closed, according to DCPO and a current outside contractor with whom the HPAO Bureau spoke.

COMMUNICATION BREAKDOWN:

Significant communication problems existed between BSOB, DCPO, and the agencies located within the Saltonstall building during the period covered by the HPAO Bureau's review. This was illustrated earlier by the manner in which the 11th floor situation was handled. An e-mail message obtained pursuant to a HPAO Bureau subpoena offers another example. It involves agency confusion surrounding the status of the mezzanine. "The story about the asbestos contamination on the mezzanine at the Saltonstall building is unfolding. I was told yesterday afternoon that [an agency] couldn't move into the mezzanine because of asbestos contamination. We were later told that the problem was created a couple of weeks ago by a contractor. We were just told that the problem has existed for a long time and that there may have been long-term exposure for those employees who worked on the mezzanine. We were further told that there has been a similar problem on the 4th floor....What all this means to [the agency's] move, I just don't know. That is really the least important issue at this point. What I do know is that this really, really ~~##*@!!~~" (expletive deleted).

The following excerpt from a BSOB letter provides another example of communication problems. This example involves multiple requests for information about



asbestos and air quality tests. "The repeated requests, coupled with tenants growing concerns over IAO (indoor air quality), has resulted in a growing distrust in the Bureau's [BSOB's] safeguards/ measures that have been undertaken in the Saltonstall Building in the past ten years.... [an agency in Saltonstall] again requested copies of asbestos reports generated in February 1994 and cited the dates of his previous requests...he is still waiting for the reports, giving the impression that I and the Bureau [BSOB] are stonewalling and not giving honest answers to the questions posed by building tenants. This stonewalling only gives rise to fears in building tenants that the Bureau (BSOB) is not being truthful with them and leads to the question "why?"...May I respond to the requests for information from tenant agencies? If I still may not respond, how should I direct building tenants to get the information they seek so as to not further erode tenant confidence in the Bureau (BSOB)?" The HPAO Bureau found from a number of sources that, like the above example illustrates, BSOB did not provide asbestos test results in a timely fashion.

INTERNAL COMMUNICATION BREAKDOWN AT BSOB:

There was a serious problem with communication internally at BSOB during the period covered by the HPAO Bureau's review, according to BSOB's own documents. For example, the Principal Engineer, who was also the Asbestos Coordinator, was not allowed to have any contact with the Superintendent despite the fact that the Superintendent himself is the person who appointed the Asbestos Coordinator. The Asbestos Coordinator could not draft memos that refer to the title of Superintendent or his personal name, was not allowed to carbon copy the Superintendent, and was not

allowed to communicate with or send correspondence to the Superintendent. He was also not allowed to send memos to anyone outside BSOB without prior approval by the Deputy Superintendent, nor was he allowed to take any policy positions, nor issue reports. This isolation of the person in charge of asbestos, not only undermined the BSOB's ability to effectively manage the Saltonstall building, but also called into question BSOB's commitment to properly handling the asbestos in the building.

Beyond the isolation of the Asbestos Coordinator from the Superintendent, there are apparently contradictory orders and information given to the Coordinator. For example, according to a document reviewed by the HPAO Bureau, the Superintendent disapproved of the asbestos coordinator's participation in issues "involving possible asbestos exposure to building occupants, as well as implementation of necessary corrective actions and safeguards to protect the health and safety of building tenants."

The superintendent's disapproval stands in contrast to the Deputy Superintendent's not only approval, but his request that the Asbestos coordinator undertake the actions to which the Superintendent objects. This is further puzzling when one considers that the matters the Superintendent did not want the Asbestos Coordinator involved in were clearly asbestos related and thus within the Asbestos Coordinator's responsibilities.

ABATED FLOORS:

Although asbestos has been abated on areas of floors 17, 18, and 22, these floors and subsequent wipe samples on these floors tested positive for asbestos. According to

the report, "fibers could have been transferred via vacuum cleaners since cleaners use the same equipment throughout the building, via air system (HVAC) when the system is not operating on 100% outside air or if there are deposit of fiber within the duct work/air handlers, via inter-office moves within the building." The consultant went on to conclude that "[b]ased on laws of probability and static analysis, if there were more samples taken, the percentage could have been higher. Also, since the sampling was done randomly, we may have missed the areas that could have positive results."

SPRINKLER SYSTEM:

As mentioned earlier, the Saltonstall building is not equipped with a sprinkler system. This is in violation of the Massachusetts General Laws which requires that buildings such as Saltonstall that are owned by the Commonwealth be equipped with sprinkler systems by March 30, 1997.⁹ Documents reviewed by the HPAO Bureau indicate that the sprinkler system was not installed due to potential for disturbance of the asbestos fireproofing. The work could have caused some asbestos fibers to become airborne. The asbestos also increases the cost of the sprinkler installation. Other documents indicate that DCPO and BSOB were aware that this was a building code violation.

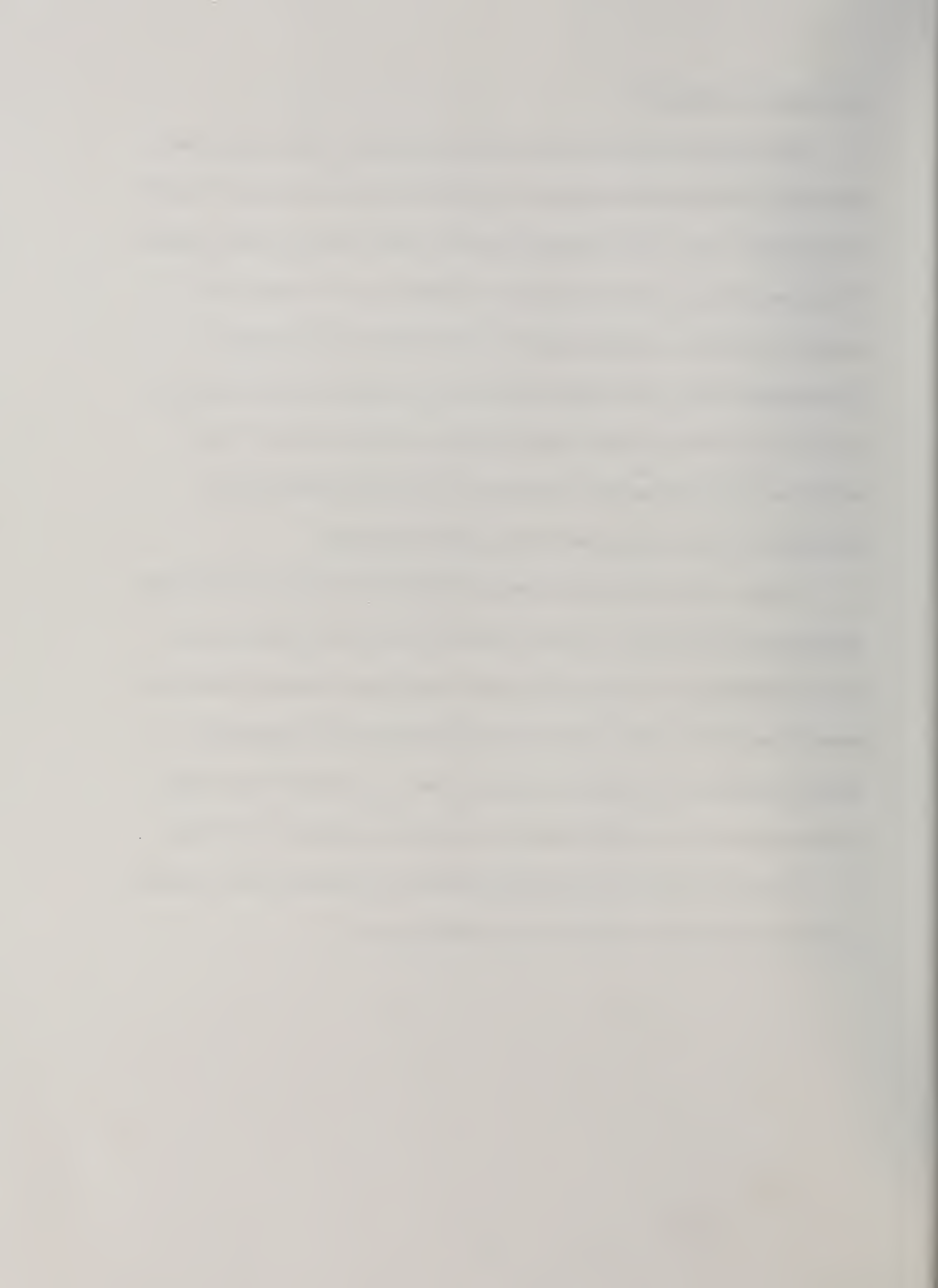
⁹ See M.G.L. c. 148 s. 26A

COOLING EQUIPMENT:

The building had only one primary machine for cooling which is approximately 20 years old. According to the consultant, the machine had reached the end of its useful life expectancy in June of 1995. The back up unit was also twenty years old. In August of 1995, it was determined that it was no longer a reliable backup. This left only the primary unit which the consultant reiterated in August that it was their "strong recommendation that a serious effort be made to install a reliable, primary refrigeration unit in the Saltonstall. They further stated about the unit in place that they "cannot estimate how long it can maintain in this capacity" and "feel that BSOB is under tremendous risk should the machine fail during the cooling season".

It was not until an emergency waiver was submitted and approved the following spring, in April of 1996, that a decision was made as to what to do. The emergency waiver of advertising and bidding indicated that "an emergency threatens the health and safety of persons and property....the lack of chilled water to cool the building will increase building floor temperatures to unhealthy levels. Coupled with high humidity will cause numerous medical difficulties and could result in closing of the building."

On April 11, 1996 it was finally agreed that DCPO would fund the first year lease of electric chillers and the installation of associated equipment.



ELEVATORS:

A rope snapped in an elevator in Saltonstall in January of 1997, according to BSOB documents. This document indicated that no known cause of the snap could be detected. The rope had been installed only four years ago.

The HPAO Bureau also received information that asbestos fibers could be spread through the mechanical rooms through the elevator shafts which were not sealed off. This may be contributing to the appearance of asbestos fibers on floors previously abated.

GENERAL DILAPIDATION:

There are numerous other areas of the building where it is evident that the building has been neglected. For example, the steps leading from Bowdoin Street to the plaza area between the Saltonstall and McCormack buildings are close to collapse. These steps have been boarded off for so long that the wood barrier is now weather worn and gray. Other areas also have experienced water damage including numerous areas of the facade. Damage has created gaps between the granite slabs. The HPAO Bureau notes with irony that while there has been a severe lack of maintenance on the building, significant money was spent on a security system that can be easily breached at the loading dock, plaza area, and garage area.

CONCLUSION:

The HPAO Bureau can only conclude that the relocation of the building occupants must be expedited. The HPAO Bureau has not been able to resolve the effects of all of

the growing number of situations where asbestos was either released or in those areas in the building where it may be released in the near future because of the tremendous deterioration of the building. The HPAO Bureau is unable to disprove some of the assertions made indicating that ongoing asbestos problems are increasing as of this writing.

The Superintendent of BSOB stated in his testimony before a legislative committee, "If we do not take some action soon, we will eventually reach the point where there will be a major breakdown of an essential system which could result in an emergency shutdown of the building." While an essential system has not technically broken down, past and recent asbestos wipe tests alike have shown that asbestos is in the working environment and is continuing to appear there.

Employees are entitled to a safe working environment. These 2,100 individuals have serious and legitimate concerns about the actual safety of the building in which they work. All parties agree that evacuation and renovation is required and inevitable. The HPAO Bureau believes that given the tremendous maintenance issues that already exist and the levels of asbestos already present, a swift removal of tenants should begin now.

RECOMMENDATIONS:

The HPAO Bureau believes that the handling of the numerous maintenance concerns, the age of the building, and the potential for release of asbestos fibers require an immediate evacuation. Thus, agencies should be relocated as soon as possible and plans should be finalized so that renovation or demolition work can begin.

During any interim period when agencies remain in the building prior to relocation, the Operations and Maintenance Plan should be made more stringent. All maintenance issues relating to hazardous conditions must be clearly identified and all maintenance

measures taken to minimize risk. This will help insure that asbestos that has been released into the air is properly and promptly removed from the work environment.

Medical surveys should be conducted of all the employees who work in the building. This employee health monitoring should be anonymous, but indicate floor and wing location so that any potential trends or clusters of complaints may be easily detected. This survey should be given before renovations are undertaken. A follow up survey should be done after renovations are complete and workers are moved back into the building.

DCPO should double its efforts to move staff out of the Saltonstall on an emergency basis and into other state- owned space. These efforts should also include the timely identification of reasonable rental space for agencies who will not be housed in state-owned space during the renovation period.

Renovations should include the complete removal of asbestos. Other possible health risks in the building, such as mold, fungi, and dust which may be circulated through the air or found in carpeting should also be rectified through appropriate means during renovations.

There should be a statewide survey of the condition of all state buildings including an assessment of the condition of asbestos within these buildings. All individuals who worked or currently work in these buildings should have a preliminary assessment made. The Mayors of Boston and surrounding cities should be involved with an immediate effort to relocate employees into safe and efficient workspace.

AIR TESTING:

There have been many rounds of air testing over the years and recently. Given that fact, the tests' limitations should be mentioned. According to DOS, "[i]t should be recognized that all air monitoring methods used for asbestos exposure have a universal weakness, namely that these methods reflect fiber concentrations only at the time of sampling. Episodic releases of asbestos fibers will usually be missed by air sampling methods unless the sampling occurs coincidentally and in the same area as the release."

The HPAO Bureau notes the significance of this especially given the inconsistencies between air and wipe samples and again asserts the importance of a comprehensive

assessment of the building through a variety of tests. The disparity in test results to date is another reason evacuation and relocation is warranted.





The Commonwealth of Massachusetts

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Chairman
Committee on
Post Audit and Oversight

STATE HOUSE, ROOM 146
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October 30, 1997

Charles D. Baker
Secretary
Executive Office of Administration & Finance
State House, Room 373
Boston, MA 02133

Dear Secretary Baker,

The House Post Audit and Oversight Bureau has been conducting a preliminary inquiry into the deteriorating conditions at the Leverett Saltonstall Office Building (LSOB). In particular, the Bureau has met with officials from the Bureau of State Office Buildings (BSOB) and DCPO as well as the Commonwealth's private consultants that have done air testing in the building. Although the scope of the Bureau's review was not limited to the "air quality/asbestos issues", the Bureau did find that there were serious concerns of a sufficient magnitude to prompt this Bureau response.

As you are well aware, the LSOB has had a serious long-term asbestos problem. A thirty-year old building that has extensive spray-on fire proofing containing asbestos is a health hazard waiting to happen. The Bureau's concern about the asbestos condition in the building is heightened for a number of reasons. Given that the building has received only band-aid or emergency level of maintenance since 1989, there are serious multiple concerns about the potential for ongoing asbestos exposure.

In the course of its inquiry, the Bureau has subpoenaed numerous documents, photographed certain areas with dangerous conditions, inspected the building, talked to numerous Saltonstall state employee occupants from a multitude of agencies and spoken with air quality experts and consultants. Based upon its initial inquiry, the Bureau has raised the following issues:

- 1) There are inconsistencies in air quality test results performed. Given the high degree of asbestos in wipe samples and a divergent low level of asbestos in air samples, the Bureau believes that the disparity between high wipe samples and low air samples

needs to be reconciled. While numerous theories about how the wipe samples could be positive have been put forth to the Bureau, none of them is based on any scientific analysis. Absent a clean wipe of all surfaces and subsequent surface test after stirring up the air, all theories about how the wipe samples tested positive are just simply theories.

2) The Bureau has not received a definitive answer as to whether all of the filters in the air units have been tested for asbestos. The Bureau has concerns about test protocols in this area. Examination of all air filters including installation of filtering on exhaust air units must be accomplished to accurately verify whether or not there are unacceptable levels of asbestos in the LSOB air.

3) The Bureau has reviewed documents which have raised serious concerns about the quality of air in the building. The Bureau is in receipt of documents relating to the 11th floor and problems with air quality. In particular, the documents show that an examination of the interior of an air supply duct indicated a presence of asbestos inside of the air supply duct. The actual presence of asbestos inside of the duct work, if correctly identified, would constitute a serious breach of the health and safety of the air supply units and the entire building. The Bureau is currently attempting to verify the authenticity of the documents received. The Bureau believes, based upon what it has encountered to date, that there is a reasonable likelihood that what the documents represent is accurate.

4) The Bureau has observed visually and has identified several documents which indicate numerous water problems in the Saltonstall Building. Given the tremendous number of reconfigurations of office space, water damage, age of ceiling tiles and age of asbestos fireproofing, serious questions relating to the air quality of the building remain.

5) The Bureau has reviewed a combination of factors which give rise to additional levels of concern about asbestos.

a. The Bureau received information that areas previously remediated have tested positive for asbestos in wipe samples.

b. The presence of asbestos in the air induction units and the testing done after the units were supposed to have been cleaned is cause for concern.

c. The caulking of ceiling tiles to limit dropping of asbestos is another cause of concern. Given the deterioration of many ceiling tiles in the building, the Bureau questions the short- term effectiveness of this measure, i.e., adding weight to already weakened ceiling tiles.

d. Asbestos exposures from lightbulb changings is now considered sufficient to require a protection protocol. In the past, bulbs were changed based upon the mistaken notion that the light units were sealed.

e. As alleged in the Commonwealth's successful suit against Owens-Corning Fiberglass (Comm. of Mass. plaintiff v. Owens-Corning et. al. C.A.90-3791A), normal renovations/repair activities unavoidably disturb asbestos and lead to release of large quantities of asbestos fibers. The Commonwealth's complaint and argument does not concur with the conclusion that random air sample tests mean little or no release of asbestos fibers.

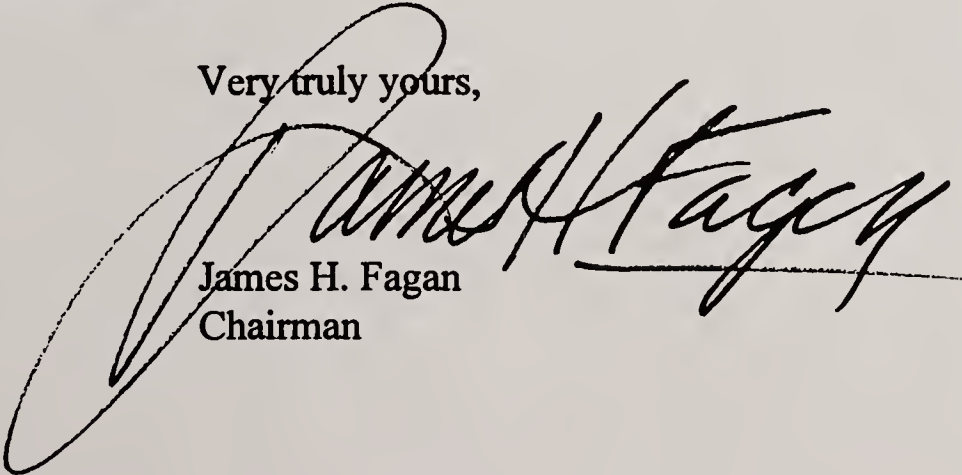
f. BSOB and others have taken refuge in the idea that 100% outside air is being brought in and circulated through the building. This statement, given other information, is not totally accurate. During high heat outside as well as severe cold, some air must be recycled in the building. Given the Bureau's concerns about the potential for asbestos inside the air supply ducts, little comfort is taken from prior statements about the makeup of the indoor air at LSOB.

The Bureau believes that the combination of conditions articulated above give rise to grave concerns about the continued occupancy of the building. Accordingly, the Bureau calls for the following:

- 1) an immediate comprehensive test in the presence of federal OSHA personnel of all floors, wipe areas, air ducts, induction units and exhaust fans.
- 2) a complete evaluation of the interior of air supply ducts throughout the entire building.
- 3) development of immediate evacuation and relocation plan for the building.

I believe that the Bureau's initial analysis generates enough cause for concern that this issue must be addressed immediately. Please feel free to contact me if you have any questions or would like to discuss this matter.

Very truly yours,


James H. Fagan
Chairman

JHF/lg

cc: Thomas M. Finneran, Speaker
Lark Palermo, Commissioner, DCPO
Dennis Smith, Superintendent, BSOB

